ORIGINAL

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of the Petition of	
HUGHES COMMUNICATIONS GALAXY, INC.	RM No. _____
To Amend Parts 2, 25 and 90 of the Commission's Rules To Allocate Spectrum for the Fixed Satellite Service	DOCKET FILE COPY ORIGINAL

PETITION FOR RULEMAKING

Pursuant to Section 1.401 of the Commission's Rules, Hughes Communications Galaxy, Inc. ("HCG") hereby petitions the Commission to institute a rulemaking proceeding to amend Part 2 of its Rules to allocate spectrum for the fixed satellite service ("FSS"), and to make conforming changes to the service rules contained in Parts 25 and 90. Specifically, HCG requests that the Commission amend the Table of Frequency Allocations contained in Section 2.106 of the Commission's Rules, and also to amend the service rules contained in Sections 25.202, 25.204, and 90.103, to allow the co-primary use of the 13.75-14.0 GHz band by international FSS uplinks. HCG has an interest in this proposed allocation because it has pending an application for authority to construct, launch, and operate a separate international fixed-service communications satellite system, to be known as "Galaxy VIII(I)," which will provide state-of-the-art satellite services between and among the United States and Mexico, the Caribbean, and Central and South America.[1/]

1/ Hughes Communications Galaxy, Inc., File Nos. 47-DSS-P/LA-94; CSS-94-018.

HCG has proposed to locate Galaxy VIII(I) at 95° W.L. and to operate it at 13.75-14.0 GHz (uplink) and 11.45-11.70 GHz (downlink).

For the reasons set forth below, the Commission should grant HCG's petition and allocate the 13.75-14.0 GHz band for use by international FSS uplinks. The proposed amendments to the Commission's Rules will correct the existing imbalance between the amount of uplink and downlink frequencies that are available for international FSS use, implement the International Telecommunications Union's Final Acts of the 1992 World Administrative Radio Conference for Dealing with Frequency Allocations in Certain Parts of the Spectrum ("WARC-92 Final Acts"), and serve the public interest by maximizing the efficient use of orbital spectrum resources and furthering the competitiveness of United States satellite operators in the provision of private international satellite services.

I. ALLOCATING THE 13.75-14.0 GHz BAND FOR INTERNATIONAL FSS UPLINKS WILL PROVIDE NEEDED FREQUENCIES FOR INTERNATIONAL SERVICES, AND WILL IMPLEMENT THE WARC-92 FINAL ACTS.

The Commission should institute the requested rulemaking and amend its Rules to allocate the 13.75-14.0 GHz band for international FSS uplinks. The requested allocation is necessary to correct a recognized imbalance in the FSS frequencies that are available for international use. It also would implement the conclusions that were reached at WARC-92, which the United States supported, with respect to the allocation of that band.

The Commission has acknowledged that an imbalance exists between the amount of FSS frequencies that are available for international FSS uplinks and those that are

available for international FSS downlinks.[2/] In the current Table of Allocations and Section 25.202 of the Commission's Rules, there is a 500 MHz shortfall of uplink spectrum that is available for international FSS use. This shortfall results from the fact that the 10.95-11.2 GHz and 11.45-11.7 GHz downlink bands, which are available only for international service,[3/] are not "paired" with any uplink bands. The proposed amendment would make available an additional 250 MHz of uplink spectrum for international FSS use, and thereby decrease the shortage of available spectrum at any given orbital location.

Addressing the imbalance in this manner would directly implement the WARC-92 Final Acts. Initially, the allocation of the 14.5-14.8 GHz band for international FSS uplinks had been on the agenda for WARC-92.[4/] In preparing for WARC-92, the Commission solicited comments on that proposed allocation,[5/] and ultimately the Commission and the U.S. Delegation to the Conference opposed allocating the 14.5-15.8 GHz band for FSS links because that band's current use in Europe and the United States

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[2/] See, e.g., Inquiry Relating to Preparation for the International Telecommunication Union World Administrative Radio Conference for Dealing with Frequency Allocations in Certain Parts of the Spectrum, 6 FCC Rcd 3900, 3911 (1991) ("WARC-92 Inquiry").

[3/] See 47 C.F.R. § 25.202(a)(1) & n.2.

[4/] WARC-92 Inquiry, 6 FCC Rcd at 3911.

[5/] See id.; WARC-92 Inquiry, 5 FCC Rcd 6046, 6068-69 (1990).

prohibits FSS use.[6] As a compromise, the Conference allocated the 13.75-14.0 GHz band on a co-primary basis for use by FSS uplinks.[7]

The 13.75-14.0 GHz band is allocated internationally on a co-primary basis for radiolocation and radionavigation services and on a secondary basis for the space research, Earth exploration-satellite, and standard frequency and time signal-satellite services. Recognizing the potential difficulties entailed in sharing spectrum, WARC-92 made use of the 13.75-14.0 GHz band subject to certain technical requirements. Specifically, it added to the international Radio Regulations footnote 855A, which specifies technical criteria necessary for the co-primary services to share the band, and footnote 855B, which deals with geostationary and nongeostationary space stations in the space research service. Resolution No. 112 of WARC-92 called for the study of the criteria set forth in footnotes 855A and 855B, particularly with regard to the compatibility of FSS and secondary allocations in the 13.75-14.0 GHz band. ITU-R Task Groups 4/4 and 7/3 have completed those studies and have concluded that the criteria in footnotes 855A and 855B are appropriate.[8] Affirmation of the technical requirements set forth in those footnotes is on the agenda for WRC-95.[9]

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[6] WARC-92 Inquiry, 6 FCC Rcd at 3911.

[7] International Telecommunication Union, Final Acts of the World Administrative Radio Conference for Dealing with Frequency Allocations in Certain Parts of the Spectrum (WARC-92), Resolution No. 112, at 204 (1992).

[8] Preparation for International Telecommunication Union World Radiocommunication Conferences, Second Notice of Inquiry, FCC No. 95-36, ¶¶ 71-75 (released Jan. 31, 1995) ("Second WRC NOI").

[9] Id. ¶ 73.

The U.S. Delegation to WARC-92 agreed to the compromise of allocating the 13.75-14.0 GHz band for co-primary FSS use.[10/] Due to concerns about interference between FSS uplinks and other U.S. services in the band, however, the National Telecommunications and Information Administration ("NTIA") supported the allocation only to the extent that use of the band in the United States would be limited to uplinks for international FSS services. In addition, the Commission and other U.S. agencies have agreed with the technical criteria set forth in footnotes 855A and 855B to the international Radio Regulations.[11/] In its comments in response to a Commission Notice of Inquiry in preparation for WRC-95, HCG has urged the Commission to continue to support FSS use in the 13.75-14.0 GHz band.

Thus, to implement the Final Acts of WARC-92, the Commission should amend its existing Table of Frequency Allocations and Rules to allow the use of the 13.75-14.0 GHz band for FSS uplinks, subject to the technical restrictions set forth in footnotes 855A and 855B of the international Radio Regulations, and subject to the additional limitation, urged by NTIA, that use of the band be for international services only. Attached as Exhibits A and B are proposed amendments to Sections 2.106, 25.202, 25.204, and 90.103 of the Commission's Rules that would implement the recommendations of WARC-92 with respect to the 13.75-14.0 GHz band. Exhibit A proposes amendments to the U.S. Table

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[10/] See United States Dep't of State, United States Delegation Report, World Administrative Radio Conference, at 31 (1992).

[11/] Id.; see also FCC Industry Advisory Committee for the ITU 1995 World Radiocommunication Conference Interim Report, at 184 (Dec. 30, 1994); United States Dept' of Commerce, National Telecommunications and Information Administration, Document No. 4 (Nov. 8, 1994).

of Frequency Allocations and includes footnotes 855A and 855B in the modified form that the Commission has recently proposed in response to the affirmation of those footnotes by ITU-R Task Groups 4/4 and 7/3.[12/] Exhibit B proposes conforming amendments to the Part 25 and Part 90 service rules that include the limitations on the use of the band by the radiolocation services and satellite services. These are the limitations described in modified footnotes 855A and 855B that are designed to allow co-primary use of 13.75-14.0 GHz by these two services.

II. THE PROPOSED AMENDMENTS WILL SERVE THE PUBLIC INTEREST.

Amending the Table of Frequency Allocations and the Rules as HCG proposes will serve the public interest significantly. First, it will advance the efficient use of the frequency spectrum. Second, it will allow American satellite operators to compete more effectively in the provision of private international satellite services. Promoting such competition is particularly important as other countries increasingly have begun to reserve frequencies and to provide satellite services at orbital locations that are heavily used by U.S. systems.

Correcting the imbalance between FSS uplink and downlink frequencies is important to maximize the efficient use of orbital spectrum resources. Although there are only a finite number of orbital locations, multiple satellites operating at different frequency bands can occupy the same location as long as they use different uplink and downlink bands. Because there is a 500 MHz shortfall of FSS uplink frequencies available for use in the U.S., up to 500 MHz of downlink spectrum at any given orbital location is now unusable by U.S.-

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12/ Second WRC NOI, FCC No. 95-36, ¶¶ 71-75.

sponsored systems. Allowing U.S. satellite operators to use the 13.75-14.0 GHz frequency band for international FSS uplinks will help correct this imbalance and thus will allow more efficient use of the available orbital locations.

In addition, making the 13.75-14.0 GHz band available for international service will allow the United States to compete more effectively in the growing international market. One of the Commission's guiding principles in developing United States international satellite policy should continue to be the promotion of an internationally competitive United States satellite industry. The Commission should provide U.S. satellite operators every chance to compete with satellite system providers in other countries in offering their services. Increasing the amount of spectrum available to U.S.-sponsored systems will help level the playing field.

In fact, it has become critical to the competitiveness of the United States satellite industry, both at home and abroad, for the Commission to adopt a position that supports co-primary FSS uplinks for international operations in the 13.75-14.0 GHz band. Other governments are in the process of registering international systems that will use that band for uplink operations. The ITU's Space Network List indicates that over one hundred satellite systems worldwide propose to use 13.75-14.0 GHz, some of which are at locations particularly well-suited to providing service to and from the United States. For example, the ITU Space Network List reveals that Argentina already has claimed the 85°, 80°, 76°, 72°, and 59° W.L. locations at 13.75-14.0 GHz, and Cuba has claimed 97° and 83° W.L. at 13.75-14.0 GHz.

HCG's business plan includes the provision of private international satellite services to Latin America in the near future. In particular, HCG believes that the Latin American region is a market whose needs are inadequately met and that therefore presents unique opportunities in the near term. In order to provide services to Latin America, HCG needs to enter that market as soon as possible. Allocation of the 13.75-14.0 GHz band for use by FSS uplinks will allow U.S. satellite operators to compete successfully in the near future in the provision of private international satellite services to Latin America and other parts of the world.

CONCLUSION

For the foregoing reasons, the Commission should grant HCG's petition for rulemaking, and it further should amend the Table of Frequency Allocations contained in Section 2.106 of the Commission's Rules, and also amend Sections 25.202, 25.204, and 90.103 of the Rules, to allow use of the 13.75-14.0 GHz band for co-primary use by international FSS uplinks.

Respectfully submitted,

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EXHIBIT A

§ 2.106 Table of Frequency Allocations

International table			United States table		FCC use designators	
			Government	Non-Government	Rule part(s)	Special-use frequencies
Region 1-allocation GHz	Region 2-allocation GHz	Region 3-allocation GHz	Allocation GHz	Allocation GHz		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
*	*	*	*	*	*	*
13.4-13.75	RADIOLOCATION. Standard Frequency and Time Signal-Satellite (Earth-to-space). Space Research. 713 853 854 855		13.4-13.75 RADIOLOCATION. Standard Frequency and Time Signal-Satellite (Earth-to-space). Space Research. 713 US110 G59	13.4-13.75 Radiolocation. Standard Frequency and Time Signal-Satellite (Earth-to Space). Space Research. 713 US110	PRIVATE LAND MOBILE (90).	
13.75-14.0	RADIOLOCATION. FIXED-SATELLITE (Earth-to-space). Standard Frequency and Time Signal-Satellite (Earth-to-space). Space Research. 713 853 854 855 855A 855B		13.75-14.0 RADIOLOCATION. Standard Frequency and Time Signal-Satellite (Earth-to-space). Space Research. 713 US110 G59	13.75-14.0 FIXED-SATELLITE (Earth-to-space). RADIOLOCATION. Standard Frequency and Time Signal-Satellite (Earth-to-Space). Space Research. 713 855A 855B US110	SATELLITE COMMUNICATION (25). PRIVATE LAND MOBILE (90).	
*	*	*	*	*	*	*

855A In the band 13.75-14.0 GHz, the e.i.r.p. of any emission from an earth station in the fixed-satellite service shall be at least 68 dBW, and should not exceed 85 dBW, with a minimum antenna diameter of 4.5 meters. In addition the e.i.r.p., averaged over one second, radiated by a station in the radiolocation and radionavigation services towards the geostationary orbit shall not exceed 59 dBW. See Recommendation ITU-R S.1068.

855B In the band 13.75-14.0 GHz, geostationary space stations in the space research service, for which information for advance publication has been received by the ITU-R prior to 31 January 1992, shall operate on an equal basis with stations in the fixed-satellite service; after that date new geostationary space stations in the space research service will operate on a secondary basis. Until 1 January 2000, stations in the fixed-satellite service shall not cause harmful interference to non-geostationary space stations in the space research and earth exploration-satellite services; after that date these non-geostationary space stations will operate on a secondary basis in relation to the fixed-satellite service. See Recommendation ITU-R S.1069 and ITU-R SA.1071.

EXHIBIT B

Amend § 25.202(a)(1) to read as follows:

(a)(1) *Frequency bands.* The following frequencies are available for use by the fixed-satellite service. Precise frequencies and bandwidths of emission will be assigned on a case-by-case basis.

Space-to-Earth	Earth-to-Space
3700-4200 MHz[1]	5925-6425 MHz[1]
10.95-11.2 GHz[2]	13.75-14.0 GHz[4]
11.45-11.7 GHz[2]	14.0-14.5 GHz[3]
11.7-12.2 GHz	27.5-29.5 GHz[1]
17.7-19.7 GHz[1]	29.5-30.0 GHz
19.7-20.0 GHz	

1. This band is shared coequally with terrestrial radiocommunication services.

2. Use of this band by the fixed-satellite service is limited to international systems, i.e. other than domestic systems. These bands are also shared on a co-equal basis with terrestrial radiocommunication services.

3. The band 14.0-14.3 GHz is shared coequally with the radioavigation service, and the band 14.4-14.5 GHz is shared with Government terrestrial radiocommunication services in accordance with the provisions of footnote US234 in the Table of Frequency Allocations.

4. Use of this band by the fixed-satellite service is limited to international systems, i.e., other than domestic systems. This band also is shared on a co-equal basis with the radiolocation service.

Amend § 25.204 by adding the following subsection (f):

(f) The e.i.r.p. of any emission from an earth station operating in the frequency band 13.75-14.0 GHz shall be at least 68 dBW and should not exceed 85 dBW, with a minimum antenna diameter of 4.5 meters.

Amend § 90.103(b) by changing the Radiolocation Service Frequency Table as follows:

Replace the line that reads:

13,400 to 14,000....|....do.....| 12

with the following two lines:

13,400 to 13,750....|....do.....| 12

13,750 to 14,000....|....do.....| 12, 31

Amend § 90.103(c) by adding the following paragraph:

(31) In the frequency band 13.75-14.0 GHz, the e.i.r.p., averaged over one second, radiated by a station in the radiolocation service towards the geostationary orbit shall not exceed 59 dBW. This frequency band is shared on a co-equal basis with the Fixed-Satellite Service.